of the Potsdam Observatory is a sufficient guarantee, Dr. Scheiner presents the following table, in which is exhibited the faintest magnitude which, under certain varied circumstances, can be detected on a photographic plate:—

Time of exposure.		Faintest magnitude.			
m.	s.	Plate I.	Plate II.	Plate III.	Plate IV.
0	24	9·0	6·4	7·7	8·2
1	0	9·4	7·25	8·3	8·75
2	30	9·9	7 7	8·55	9·3
6	15	10·6	8·45	9·3	9·65
15	38	—	8·85	9·7	—

It will be noticed that while each successive exposure is 2·5 that of the preceding, the corresponding gain in light is considerably less than one magnitude. From each of the four plates the gain is as follows:—

	Gain in mag.
Plate I.	0·53
,, II.	0·61
,, III.	0·50
,, IV.	0·48

The mean is 0·53—that is to say, instead of one magnitude being gained by continued exposure through each successive interval, the actual gain is only half a magnitude. The exception that might be taken to these experiments is, that the detection of the feeblest stars on a plate is a matter of doubt and great practical difficulty. Dr. Scheiner has, however, availed himself of a second test by counting the stars on a plate after various exposures. With this view two plates were taken of the region round ε Orionis, one with an exposure of one hour, the other with eight hours' exposure. Therefore, if 2·5 times the exposure produced stars a magnitude fainter, there ought to be a gain of more than two magnitudes on the second plate, and it may be assumed that the number of stars impressed would follow the known law. On the one-hour plate were found 1174 stars, on the eight-hour 5689. There ought to have been on the long-exposed plate over 10,000 stars, so that roughly speaking only one-half of the stars given by the law were photographed. Further, Argelander has catalogued within this area 125 stars, and therefore it might have been anticipated from the law of increase that some 10,000 stars would have been visible on the one-hour plate.

This margin is too great to be readily explained away. Of course, there is the same difficulty in perceiving the minute dots that represent the faintest stars as in the former case, and further, it is possible that the law of average increase of the number of stars did not hold in this particular part of the sky. It is not to be expected that a law, which applies with more or less accuracy *on the average* to the whole of the sky, is necessarily fulfilled on any small portion, such as the ten-thousandth part. If the stars are not in the heavens, they cannot be photographed. Evidently, it would be unlikely that on every thousandth part of *that* plate would be found the thousandth part of the total number of stars impressed.

But allowing for errors of exaggeration and observation, the result is very interesting, and not a little alarming as implying that photography is not so powerful an engine as was at first anticipated, and that, to accomplish the full hope of all that was expected of it, longer exposure and consequently a greater expenditure of time will be needed. Dr. Scheiner gives a little table, which shows that if a star of the 9·5 mag. be registered in 24 seconds, then in 190 minutes a star of the 16·5 mag. will be photographed, supposing a whole magnitude to be gained by successively multiplying the exposure by 2·5. But if the gain be only 0·5 in this interval, then the faintest star impressed will be only 13·0 mag., even after this long exposure. If 0·6 of a mag. be the rate of increase, then the 13·6 mag. will be seen; if 0·7, then 14·4 mag. The truth will probably be found near this latter limit.

NOTES.

The second International Folk Lore Congress meets at the rooms of the Society of Antiquaries this afternoon, when an address will be delivered by Mr. Andrew Lang, the President. Three subjects are to be considered—folk tales, mythology, and institutions and customs. To each of these subjects a day will be devoted. The proceedings will be brought to an end on Wednesday morning next.

The Iron and Steel Institute will meet at the Woolwich Arsenal on Tuesday next. The members are to be conducted over the manufacturing departments at the Arsenal, and will see quick-firing and machine guns in practice. On the following day the Institute will conclude its meeting at the Institution of Civil Engineers.

The third biennial session of the International Statistical Congress was opened at Vienna, on Monday, by Baron Gautsch, the Austrian Minister of Public Instruction. An address was delivered by Sir Rawson Rawson, the President.

The seventeenth Annual Congress of the Sanitary Association of Scotland was held in Edinburgh last week. Dr. Farquharson, M.P., President of the Congress, delivered an address "On a Model Hygienic State, or a Glance at the Sanitation of the Future." In the course of his remarks he urged the necessity for more organized attention being given in Parliament to hygienic matters, and advocated the appointment of a Minister of Public Health.

The Harveian Oration will be delivered at the Royal College of Physicians, by Dr. W. H. Dickinson, at the Royal College of Physicians, on Monday, October 19, at 4 o'clock.

We referred last week to the death of Prof. W. Ferrel. He was born on January 29, 1817, and since the foundation of the *American Meteorological Journal* he was a frequent contributor to that paper, from which we take most of the following details of his life. During his boyhood he was kept rather closely at work on his father's farm, and with the first money he earned, he bought a copy of Park's "Arithmetic." Having also a liking for astronomical studies, he used to draw a number of diagrams upon the doors of his father's farm, describing circles with the prongs of a pitchfork. In 1839, he entered one of the Colleges in Pennsylvania, and graduated at Bethany College in 1844. In 1857, he became an assistant in the office of the "American Ephemeris and Nautical Almanac," and subsequently entered the U.S. Coast Survey and the Signal Office, from which last he retired in 1886. He was elected a member of the National Academy of Sciences in 1868. Ferrel is described as an extremely diffident man, and he never once sought position; every official position that he occupied having been offered to him. His first paper bearing directly on meteorology was published in 1856, with reference to the deflective effects of the earth's rotation upon the motions of the atmosphere; and this paper, which has done much towards establishing meteorology on a scientific basis, was subsequently revised and reprinted as one of the professional papers of the Signal Service, under the title "Motions of Fluids and Solids on the Earth's Surface." In this treatise he proposed a complete analytical investigation of the general motions of the fluids surrounding the earth. These papers received considerable attention and discussion soon after publication, especially in France; in America and England they were overlooked until recent years, but they are now recognized as fundamental propositions in the study of meteorology. He also wrote various articles on the tides, which are of equal significance with those on the motions of the atmosphere, and he constructed a "maxima and minima tide-predicting machine," which is now in use at the Coast Survey Office in Washington. The last of his numerous works upon meteorology was a "Popular Treatise on the Winds," published in 1889, and reviewed at length in our columns (vol. xli. p. 124). In this work he has explained at length, and with great clearness, many points which in his other writings have been too mathematical to allow of their being generally understood.

WE have already recorded with regret that Miss E. A. Ormerod has considered it desirable to resign her post of Consulting Entomologist of the Royal Agricultural Society, which she has occupied for about nine years, having been appointed in 1882. We understand that her reasons for resignation are partly on account of health, as in wet and cold weather she cannot take the requisite journeys to attend Committees without risk; partly on account of claims made of power of Council to direct her to render service in reporting elsewhere, and claims also made as to use of information in her possession beyond what the terms of her engagement granted. These claims, we understand, have been withdrawn, but Miss Ormerod considers she can work more efficiently when freed from the anxieties and possible ties which public office necessarily brings with it. Miss Ormerod's agricultural entomological work, as shown by her annual reports, has now been going on steadily for at least fourteen years, having been begun several years before she was elected to the staff of the Royal Agricultural Society; and this she purposes to continue precisely as before in all respects, whether as regards replies to inquiries, or publication by herself of observations in the form of yearly reports.

IN an article on Hooker's "Icones Plantarum," in our last issue (p. 498) we attributed the plates of the earlier volumes to Sir William Hooker. Sir Joseph Hooker informs us that they are all the work of Mr. W. H. Fitch.

A VALUABLE report, by Mr. A. E. Shipley, on an orange disease in Cyprus, caused by a scale insect, is published in the September number of the *Kew Bulletin*. The disease appears to have been noticed in Cyprus for the last six or eight years. The particular insect to which it is due is *Aspidiotus aurantii*, Maskell, a member of the sub-family *Diaspinæ*, which, with some others, compose the family *Coccidæ*. Mr. Shipley gives an account of the life-history of this insect, and then describes the various methods of dealing with it. The most successful of these methods is the gas treatment, a full description of which, by Mr. Coquillett, is quoted by Mr. Shipley from Bulletin No. 23 of the U.S. Department of Agriculture, Division of Entomology. We may note that Mr. Shipley is anxious to obtain examples of *Coccidæ* which infest plants, and examples of nematode worms parasitic in plants, with the affected parts of their respective hosts.

THE *Kew Bulletin* for September, besides Mr. Shipley's report on orange scale in Cyprus, contains sections on the rediscovery of gutta-percha trees at Singapore, on a new process for recovering some portion of the gutta-percha which is left in the bark of the trees after collection by the ordinary native method, on the fodder plant Tagasaste, and on Kangra buckwheat.

THE *Oesterreichische Botanische Zeitung* for September contains a report of Dr. A. v. Degen's botanical excursion to the island of Samothrace, and of Dr. R. F. Solla's to Southern Istria.

THE fourth number of the first volume of *Contributions from the U.S. National Herbarium*, published under the auspices of the Department of Agriculture at Washington, consists of a description, by Mr. J. N. Rose, of the plants collected by Dr. E. Palmer in 1890 in Western Mexico and Arizona. Forty-five new species are described, and several of these are illustrated by plates. Most of the new species obtained were from the neighbourhood of Alamos, a mining town of about 10,000 inhabitants, situated 180 miles south-east from Guaymas, at an altitude of about 1275 feet, where there are both a dry spring and a rainy autumn flora, very different from one another. Dr. Palmer has again started for a year's exploration of Western Mexico.

SOME valuable and interesting notes on the fertilization of South African and Madagascar flowering plants, by Mr. G. F. Scott Elliot, appear in *Annals of Botany* (vol. v., No. xix., August 1891), and have also been issued separately. They represent much work done during a two years' botanical trip. While travelling, Mr. Elliot found it impossible to make as thorough and complete observations as are really required for a proper comprehension of all the adaptations of a flower to insect visitors; but he tried to collect every insect which he saw visiting flowers, and brought home with him a numbered collection. Most of the forms secured by him had not previously been studied in their native haunts.

THE Transactions of the Liverpool Biological Society for 1891 contain an important paper by Mr. G. Murray on the Distribution of Marine Algæ in space and in time. The author compares the algal flora of three widely separated regions—the Arctic Sea, the West Indian region, and Australia; and shows in a table how many genera and species are common to any two of the regions. The number of known species of seaweeds is given as 259 in the Arctic Sea, 788 in the West Indies, and 1132 in Australia. Only twelve species are common to all three regions, and of these four belong to the Ulveæ.

A GREAT Mining Exhibition is to be opened at Johannesburg next July, and exhibits from all parts of the world are invited.

THE administration report of the Marine Survey of India for the official year 1890-91, by Captain R. F. Hoskyn, has been published. For some time notices had been received from several vessels, which seemed to indicate that the shoals lying off the eastern coast between Ennore and Pulicat were extending seaward. In the early part of 1890, therefore, the *Investigator* proceeded to this neighbourhood, and made a survey of the coast between these two places, carrying the soundings out to the 100-fathom line. The result showed that no material change had taken place in the size or position of the shoals from the time of the previous survey. The work of the season ended on May 7, when the *Investigator* arrived at Bombay. In October last a new season's operations began, and at the time when the report was written (March 9, 1891) the survey of the eastern coast of Hindustan had been completed to lat. 16° 50′ N.

THE report of Dr. A. Alcock, surgeon-naturalist on board the *Investigator*, is one of great interest. It is given as an appendix to that of Captain Hoskyn. We have already referred to Dr. Alcock's account of the general results of his deep-sea work. It may be noted that on November 3, 1890, the deepest haul ever made in Indian seas—1,997 fathoms—was successfully carried out in lat. 9° 34′ N., long. 85° 43′ 15″ E., the bottom being Globigerina ooze with pieces of water-worn pumice, and the bottom-temperature being 35° F. About 2200 fathoms of wire were veered. The following was the entire take:—There were three species of siliceous sponges and numerous detached spicules of *Hyalonema*; a large sea-anemone of a salmon-pink colour, with bright red tentacles; a mutilated specimen of the Brisingoid *Freyella benthophila*, Sladen, a fine new species of *Hyphalaster*, and a small, probably new, species of *Marsipaster* with the nidamental pouches widely open and full of ova; two species of Ophiurids, one of which is *Ophiomastus*; three species of Holothurians including *Echinosoma*; numerous specimens of a long-stalked Ascidian; two specimens of a very large species of *Amphipod*, a blind Crangonid, three species of macrurous Crustaceans, and a small *Scapellum*; a small Lamellibranch; and a number of empty annelid tubes, some of which were constructed of Foraminifera shells, while others consisted of agglutinated silky (siliceous) threads.

Mr. W. L. Dallas, assistant meteorological reporter to the Government of India, has written a valuable paper on the meteorology and climatology of Northern Afghanistan, the facts having been collected by officers connected with the Afghan Delimitation Commission. Taking the whole of the record into consideration, Mr. Dallas thinks it may safely be maintained that in the great majority of cases the disturbed weather which appears over North-Western India during the winter and spring months is the result of disturbances, which either effect simultaneously the whole region comprising Afghanistan, Baluchistan, and North-Western India, or which have appeared first over Afghanistan and secondly over India, and that these disturbances have seldom originated in India itself or are confined to India.

We have received from the Meteorological Council their Quarterly Weather Report for July to December 1880, and Monthly Weather Report for May to December 1887. The Quarterly Reports, which commenced with the year 1869, contain, in addition to the monthly and five-daily means of the observations made at the seven observatories, plates of the continuous curves of the self-recording instruments, which have been etched at the Office, and are perhaps the most complete and perfect series of meteorological curves hitherto published, and also a condensed account of the most important meteorological changes of the period. The Quarterly Reports are now discontinued, and the publication of a Monthly Weather Report was undertaken in 1884 in substitution for the Quarterly Report, while the hourly observations and means have been published in a separate volume. This Report contains the results of observations made at a considerable number of stations, together with a chronicle of the weather, and charts showing the average conditions of the various elements. Both the Quarterly and Monthly Weather Reports also contain a number of elaborate discussions of various allied subjects. The Monthly Reports in the form hitherto issued have been modified; and instead of appearing as a separate work, a Monthly Summary of the Weather, on a more concise plan, has been added to the Weekly Weather Report, commencing with the year 1888. With the exception of the years 1881–83 we have therefore a continuous and valuable record of the weather—in addition to such as is afforded by the Daily and Weekly Reports—since 1869, and we believe it is the intention of the Council to connect the gap between the Quarterly and Monthly Reports at an early date, by a discussion of the weather for that period. We shall refer in a future number to the publications which deal with the observations and results at the Stations of the Second Order, which are more particularly of a climatological character, without discussions of current weather.

The Park Commissioners of Boston, U.S., have set apart three parcels of land for the establishment, by the Boston Society of Natural History, of zoological gardens and aquaria. It is essential that 200,000 dollars should be raised before any attempt can be made to realize the scheme as a whole, but if a third of the amount were subscribed, one of the two proposed aquaria might at once be instituted. An appeal has been made by the Society to the people of Boston for the necessary funds, and it will be strange if it does not meet with a ready and liberal response. The Society is sanguine enough to think that every public-spirited citizen will see in the scheme "an addition to the forces which increase the intelligence of the voter, and thereby tend to make Boston a more desirable place of residence."

Students of the Ice Age will read with interest a paper by Mr. N. S. Shaler on the antiquity of the last glacial period, submitted to the Boston Society of Natural History, and printed in the latest instalment of the Society's Proceedings. Mr. Shaler differs decidedly from those geologists who suppose that the end of the glacial period is probably not very remote from our own day. One of the strongest of his arguments is derived from the distribution of the vegetation which in America has regained possession, by migration, of the glaciated district. We must conceive, he points out, that as the ice retreated and gradually disappeared from the surface a considerable time elapsed before existing forests attained their organization. He assumes as certain that the black walnut and the pignut hickory, between Western Minnesota and the Atlantic coast, have advanced, on the average, a distance of 400 miles north of the ancient ice front to which their ancestors were driven by the presence of the glacial sheet. For several reasons he believes that the northward progress of these forms must have been due mainly, not to the action of streams or tornadoes, but to the natural spread of the seed from the extremities of boughs, and to the carriage of the seed by rodents. But allowing for every conceivable method of transportation, he argues that a period of ten or even twenty thousand years is wholly inadequate to account for the present distribution of these large-seeded trees. If they occurred only sporadically in the northernmost part of the field they occupy, their implantation might be regarded as due to chance action. The fact, however, that they extend from the Atlantic to Minnesota indicates that the advance was accomplished by causes of a general and continuous nature.

"Water-birds that live in the Woods" formed the subject of an interesting paper read lately by Mr. G. B. Sennett before the Linnæan Society of New York. About a dozen species were dealt with, the most interesting of them perhaps being the tree ducks (*Dendrocygna autumnalis et fulva*). The former is found in the heaviest timber along the Rio Grande of Texas, at Lomita, and as this river furnishes no sort of food, it adapts itself to circumstances and feeds upon seeds or grain. These ducks will alight upon a stalk of growing corn with the ease of a blackbird, and are quite at home among the lofty trees where they make their nests. They do not resort to the river, which is so cold and muddy, from the melting snows of the mountains whence it flows, that all vegetable and animal life save the gar-pike is wanting. No ducks of any kind are found upon it. A flock of cormorants, about four miles long and one mile and a half wide, was once seen by Mr. Sennett in Minnesota.

Sparrows do not seem to lose in New Zealand any of the audacity for which they are famous in Europe. In a paper read some time ago before the New Zealand Institute, and now printed in the Transactions, Mr. T. W. Kirk gives an example of what he calls their "daring and cool impudence." Between Featherston and Martinborough he heard one day a most unusual noise, as though all the small birds in the country had joined in one grand quarrel. Looking up, he saw a large hawk (*C. gouldi*—a carrion-feeder) being buffeted by a flock of sparrows. They kept dashing at him in scores, and from all points at once. The unfortunate hawk was quite powerless; indeed, he seemed to have no heart left, for he did not attempt to retaliate, and his defence was of the feeblest. At last, approaching some scrub, he made a rush indicative of a forlorn hope, gained the shelter, and there remained. Mr. Kirk watched for fully half an hour, but he did not reappear. The sparrows congregated in groups about the bushes, keeping up a constant chattering and noise, evidently on the look-out for the enemy, and congratulating themselves upon having secured a victory.

If we may judge from the Report of the Department of Agriculture, Victoria, for the year 1889–90, the farmers of that colony are likely to benefit largely by the work of the agricultural authorities. The Department is efficiently organized, and has a thoroughly scientific conception of the nature of its duties. Mr. D. McAlpine, who has been appointed consulting vegetable pathologist, presents the following summary of the tasks undertaken by his particular section: (1) special investigations concerning the rust of wheat, oats, barley, and other cereals, and, connected with that, the question of rust on various grasses—native and imported; (2) investigations of the life-histories of the various fungus pests, and a knowledge of the best time to cope with them; (3) reports upon diseased specimens sent in from different parts of the colony, and the best known remedies for the palliation or prevention of such diseases; (4) collection of specimens of the various diseases due to fungi, and the subsequent formation of a museum for educational purposes; (5) delivery of lectures in different centres on the fungus pests most prevalent there; (6) preparation of illustrated handbooks, describing the nature of the various diseases and the remedies to be employed where possible; (7) testing various fungicides and the best methods of applying them; (8) visiting different districts in order to find out prevailing and injurious fungi; (9) contributing periodic reports to the official Bulletin of the Department.

IN the Proceedings of the Bath Natural History and Antiquarian Field Club (vol. vii. No. 2), Mr. J. F. Mostyn Clarke gives an account of the geological formations exposed in the cuttings of the Bridgwater Railway, the construction of which opened up a continuous line of excavation through the heart of the Polden Hills. Mr. Clarke had charge of the construction of the railway until near the completion of the earthwork, so that he had excellent opportunities for making careful observations. Geologists may be glad to have his description of the strata when the slopes of the cuttings are overgrown.

MESSRS. LONGMANS, GREEN, AND CO. have published the sixth edition of "An Elementary Treatise on the Integral Calculus," by Dr. Benjamin Williamson, F.R.S. In this edition the work has been revised and enlarged.

MESSRS. MITSCHER AND RÖSTELL, 61*a* Jägerstrasse, Berlin, have issued an important list of books which they have for sale. The works relate to the various departments of botany.

TWO communications upon the volatile carbonyl compounds of platinum, from Dr. Pullinger, of Tübingen, and Drs. Mylius and Foerster, of Charlottenburg, appear in the last number of the *Berichte*. Since the preparation of the remarkable carbonyl compounds of nickel and iron by Messrs. Mond, Langer, and Quincke, these platinum compounds, discovered by Schutzenberger in the year 1868, have become more interesting, and the two papers now before us add considerably to our knowledge of them. They are compounds containing platinum, chlorine, and carbon monoxide, and Schutzenberger assigned to them the formulæ $PtCl_2CO$, $PtCl_2 . 2CO$, and $2PtCl_2 . 3CO$ respectively. He obtained them by heating spongy platinum to a temperature of 250° C. in a stream first of chlorine and afterwards of carbon monoxide. The volatile, readily fusible, and crystalline sublimate obtained contained a mixture of the three, and he effected a separation by extraction with carbon tetrachloride, in which the three compounds are differently soluble. They are well defined by their melting-points, which are 194°, 142°, and 130° C. respectively. They are decomposed by water with separation of platinum, formation of hydrochloric acid, and evolution of carbon dioxide, and also, in case of the second and third compounds, of carbon monoxide. The most stable of these compounds and the best investigated is the simpler one, $COPtCl_2$. It appears to possess a distinctly basic character, so that it is able to combine with hydrochloric acid to form a compound, $COPtCl_2 . HCl$; this compound is formed in solution when the crystals are dissolved in concentrated hydrochloric acid. The two other compounds are decomposed by hydrochloric acid, losing carbon monoxide and forming the hydrochloride of the first compound. On evaporation of the hydrochloric solution, the first compound is left in needle-shaped crystals. When phosgene gas, $COCl_2$, is passed over the crystals, drops of liquid are formed, which consist of a solution of the compound in liquefied carbonyl chloride. In addition to these compounds, the bromide and iodide corresponding to the compound $COPtCl_2$ have been prepared. When the hydrochloric acid solution of the latter is evaporated on a water-bath in a stream of hydrobromic acid gas, and the resulting compound extracted with benzene, the filtered solution deposits, on cooling, orange-red needles of the bromide, $COPtBr_2$. The bromide has likewise been obtained by Dr. Pullinger, by passing carbon monoxide over heated platinous bromide. Similarly, the iodide has been prepared by evaporating crystals of the chloride with excess of hydriodic acid solution, and treating the residue with warm benzene. The crystals of the iodide, $COPtI_2$, which separate from the benzene solution on cooling, are deep red in colour, with a violet surface reflection. The chloride, bromide, and iodide exhibit a beautifully graduated difference of properties. Thus the chloride is yellow, the bromide orange, and the iodide red in colour. The melting-points are 194°, 181°, and 140° respectively. The chloride is readily, the bromide difficultly, and the iodide not at all volatile. The chloride is strongly hygroscopic, the bromide less so, and the iodide permanent. In addition to these compounds, another has been obtained by Dr. Pullinger, of the composition $PtCl_2 . 2COCl_2$, in the form of non-volatile yellow crystals, readily soluble in water, from which it recrystallizes unchanged. It appears to be the most stable of all these platinum compounds, but is only obtained in very small quantity.

OUR ASTRONOMICAL COLUMN.

INFLUENCE OF ABERRATION UPON OBSERVATIONS OF SOLAR PROMINENCES.—Some recent observations of the development and movement of solar prominences have led M. Fizeau to consider the influence that the aberration of light may exercise upon them. A note relative to such an inquiry is contained in *Comptes rendus* for September 7. It is well known that, in consequence of aberration, the longitude of the sun, and therefore of the prominences, is diminished by the amount of the constant, 20″·445—an apparent displacement depending upon the earth's orbital velocity. And it results from this that if a prominence is developed in the neighbourhood of the ecliptic, and the luminous matter of which it is composed has a velocity of translation equal to the velocity of the earth in its orbit, its position will suffer a displacement of 20″·445, which may be added to the effect due to the earth's motion, or otherwise, according to the direction of propagation, and thus give rise to corresponding variations in distances from the edge of the sun. As a matter of fact, however, the velocities of prominences are not uniform, and do not commonly attain the required value; nevertheless it seems that the high velocities which have been determined must give rise to apparent movements which depend upon the laws of aberration, and which ought to be taken into account in precise measurements.

Another point touched upon in the communication to which reference has been made is the physical nature of prominences. The simplest hypothesis is that they represent clouds of incandescent hydrogen and other metallic vapours; but M. Fizeau favours the idea that their visibility is the result of the passage of electrical discharges through gaseous material.

NEW ASTEROIDS.—The 317th asteroid was discovered by Charlois on September 8, and the 318th on September 11.

SOME OF THE POSSIBILITIES OF ECONOMIC BOTANY.[1]

OUR Association demands of its President, on his retirement from office, some account of matters connected with the department of science in which he is engaged.

The subject which I have selected for the valedictory address

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[1] Abstract of the Presidential address delivered before the American Association for the Advancement of Science, at Washington, August 1891, by George Lincoln Goodale, M.D., LL.D., Fisher Professor of Natural History, Harvard University, Cambridge, Mass., U.S.A.